CLAIMS

1. An analog resistive-film type thin-frame touch panel, comprising:

a lower-side electrode member (2) having a lower-side transparent electrode (22) on a part of a top face of a lower-side transparent insulating base member (21), a pair of lower-side bus bars (23, 24) disposed on two parallel sides of the lower-side transparent electrode, and lower-side external terminal connection portions (303, 304, 323, 324) disposed on a portion other than the lower-side transparent electrode and connected to the lower-side bus bars; and

an upper-side electrode member (1) having an upper-side transparent electrode (12) on a part of a bottom face of an upper-side transparent insulating base member (11) having flexibility, a pair of upper-side bus bars (13, 14) disposed on two parallel sides of the upper-side transparent electrode, and upper-side external terminal connection portions (301, 302, 313, 314) disposed on a portion other than the upper-side transparent electrode and connected to the upper-side bus bars,

the lower-side electrode member and the upper-side electrode member being disposed facing each other via an insulative spacer (3) in such a way that the upper-side bus bars and the lower-side bus bars are arranged in a

square pattern, and being bonded at peripheral portions, wherein

the lower-side bus bars are formed from metal thin wires (8, 223, 224) with a wire diameter of 30 to 100 μm and the upper-side bus bars are formed from metal thin wires (8, 113, 114) with a wire diameter of 30 to 100 μm.

2. The thin-frame touch panel as defined in Claim 1, wherein

the lower-side electrode member (2) further has lower-side routing circuits (25, 26) disposed on the portion other than the lower-side transparent electrode, for connecting the lower-side bus bars and the lower-side external terminal connection portions,

the upper-side electrode member (1) further has upper-side routing circuits (15, 16) disposed on the portion other than the upper-side transparent electrode, for connecting the upper-side bus bars and the upper-side external terminal connection portions, and

the lower-side routing circuits are formed from metal thin wires (8) with a wire diameter of 30 to 100 μm and the upper-side routing circuits are formed from metal thin wires (8) with a wire diameter of 30 to 100 μm.

3. The thin-frame touch panel as defined in Claim 2, wherein the metal thin wires (8) constituting each of the lower-side routing circuits and the upper-side routing

circuits are extended to outsides of the lower-side electrode member and the upper-side electrode member to constitute the lower-side external terminal connection portions and the upper-side external terminal connection portions.

4. The thin-frame touch panel as defined in Claim 1, wherein the lower-side bus bars and the lower-side external terminal connection portions are directly connected and the lower-side bus bars and the lower-side external terminal connection portions are formed from metal thin wires (223, 224) with a wire diameter of 30 to 100 μm, while the upper-side bus bars and the upper-side external terminal connection portions are directly connected and the upper-side bus bars and the upper-side external terminal connection portions are formed from metal thin wires (113, 114) with a wire diameter of 30 to 100 μm, and the metal thin wires of the upper-side external terminal connection portions and the metal thin wires of the lower-side external terminal connection portions are extended to outsides of a region where the lower-side electrode member and the upper-side electrode member are bonded to each other.

5. The thin-frame touch panel as defined in any one of Claims 1 to 4, wherein in the upper-side electrode member, the metal thin wire are fixed onto the upper-side

transparent insulating base member via a conductive paste (92, 93, 6) and in the lower-side electrode member, the metal thin wires are fixed onto the lower-side transparent insulating base member via a conductive paste (92, 93, 6).

6. The thin-frame touch panel as defined in any one of Claims 1 to 4, wherein in the upper-side electrode member, the metal thin wires are covered with a conductive paste (93, 6) and fixed onto the upper-side transparent insulating base member and in the lower-side electrode member, the metal thin wires are covered with a conductive paste (93, 6) and fixed onto the lower-side transparent insulating base member.

7. The thin-frame touch panel as defined in Claim 6, wherein a lower-side covering layer formed by being covered with the conductive paste (93, 6) in at least either one of a bend portion (151) of the lower-side routing circuit and the lower-side bus bar in the lower-side electrode member has a width (D_2) 2 to 5 times larger than a diameter (D_1) of the metal thin wire (8, 223, 224) in the lower-side electrode member, and a lower-side covering layer formed by being covered with the conductive paste (93, 6) in other portions has a width (D_2) 1 to 5 times larger than the diameter (D_1) of the metal thin wire (8, 223, 224) in the lower-side electrode member, while an upper-side covering layer formed by being covered with the conductive paste (93,

6) in at least either one of a bend portion (151) of the upper-side routing circuits and the upper-side bus bars in the upper-side electrode member has a width (D_2) 3 to 5 times larger than a diameter (D_1) of the metal thin wire (8, 113, 114) in the upper-side electrode member, and an upper-side covering layer formed by being covered with the conductive paste (93, 6) in other portions has a width (D_2) 2 to 5 times larger than the diameter (D_1) of the metal thin wire (8, 113, 114) in the upper-side electrode member.

8. The thin-frame touch panel as defined in any one of Claims 1 to 4, wherein a specific resistance value of the metal thin wire is 20×10^{-6} $\Omega \cdot$ cm or less.

9. The thin-frame touch panel as defined in Claim 8, wherein the metal thin wire on the transparent insulating base member and its periphery are covered with a conductive paste with a specific resistance value of 1×10^{-4} $\Omega \cdot$ cm or less.